10. Squares

Program Name: Squares.java Input File: squares.dat

For a project your class is doing, you have been assigned to generate a set of concentric squares.

Input
The only line of input will contain an unknown number of positive integers that indicate the size of the largest square in the designs that you are to create.

Output
For each design, you will print a square with ***x*** asterisks (*) on each side. Then inside that square will be another square, one cell away on each side. This pattern will continue until there is a single square in the middle, thus making a box of concentric squares. Print at least one blank line after each design.

Example Input File
```
8 9
```

Example Output to Screen
```
********
*      *
* **** *
* *  * *
* *  * *
* **** *
*      *
********

*********
*       *
* ***** *
* *   * *
* * * * *
* *   * *
* ***** *
*       *
*********
```

11. What's the Difference

Program Name: Whats.java Input File: whats.dat

James owns a music store that he keeps open seven days a week. He would like to close one day a week to spend more time with his family. In an effort to determine which day would be the best for him to close his business, he has collected the statistics on his sales for each day for four weeks plus a day 0, the day before the four week period began.

You are to write a program that will find the four days over the interval day 1 through day 28 which have the least difference in sales from the preceding day. For example, if day 0 has $1300 in sales, day 1 has $1500 in sales, and day 2 has $1200 in sales, then day 1 has a difference of $200 and day 2 has a difference of -$300.

Input

The first line of input will contain a single integer n that indicates the number of lines of data to follow. Each of the following n lines will contain 29 integer values, separated by a space, representing James' sales on days 0 through 28.

Note: You may assume there will be no ties in the four smallest differences.

Output

In order from least to greatest, you will print the four smallest differences and the day number of that difference with no dollar ($) signs. Separate the difference and the day number by a space. Print at least one blank line after output sets.

Example Input File

```
2
1300 1500 1200 1600 1800 900 1200 1200 1400 1500 1600 1200 1450 1475 1525
1600 1125 1200 1365 1545 1900 1325 975 1300 1445 1235 1534 1534 1200
1745 2034 2000 2100 2100 1975 1823 2231 1992 2000 2345 2435 1982 2400 1934
1823 2354 2000 2137 2579 1900 2336 2643 1745 2343 2155 2354 2789 2945
```

Note: Both of the input lines in the printed version above stretch across two lines, but are all actually only one line each in the `whats.dat` input file. The second input line is bolded for ease of reading.

Example Output to Screen

```
-900 5
-575 21
-475 16
-400 11

-898 23
-679 20
-466 14
-453 12
```